

## **POPULAR SCIENCE SUMMARY**

At the foot of the Carpathians, in what is now north-eastern Romania, communities erected barrows from the end of the 4<sup>th</sup> millennium to the middle of the 2<sup>nd</sup> millennium BC. These were round mounds that were built over the graves of buried members of the local community. Their widespread appearance is defined by archaeologists as the “kurganization” process. It seems that the area between the Siret and Suceava Rivers played an exceptional role in this context. Researchers hypothesize that in the area in question, three different communities who erected unusual barrows and created extensive cemeteries, the Yamnaya, Corded Ware and Komarów cultures, appeared with a 2000 year period. However, each of these populations was different and characterized by a variable set of funeral behaviors. Interestingly, the remains of all three sepulchral traditions are found within the boundaries of the same cemeteries. Indeed, new human groups arranged and reactivated previously existing necropolises and this phenomenon of adapting existing funerary spaces is proof that these prehistoric populations were attached to sacred places. This also shows that there were three waves of kurganization – periods of prehistory when barrow cemetery spaces were re-arranged – in the Romanian Pre-Carpathian region.

The earliest wave of the kurganization occurred thanks to the steppe community defined by archaeologists as the Yamnaya Culture. The name is related to the fact that they buried their deceased in pits, usually on their backs with flexed legs. Also, ochre of skull and the remains of wooden construction were found in their burials. The next period brings an increase in mobility, military equipment and individualization of community members, which is confirmed by restrictive funeral rules. This wave of kurganization is associated with the Corded Ware Culture. The last kurganization stage falls in a time of transformation in Europe associated with the more widespread use of a new raw material - bronze. These changes are also visible in the funeral rite, which is characterized by rich funeral architecture, the appearance of mass burials, and exotic metal grave goods. Such transformations in the described region are attributed to the Komarów culture community.

The aim of this project is to construct a developmental model for the communities described above based on a wide range of multidisciplinary methods. The area between the Suceava and Siret Rivers is the ideal testing ground because it will be possible to study the similarities and differences between successive communities who erected barrows within a single zone – a unique phenomenon in the context of these populations. The international research team will use a suite of interdisciplinary methods (archival and museum queries, LIDAR, magnetometry, GPR, drilling, excavation, radiocarbon dating, source analysis, anthropology, archaeozoology, isotope analysis, ancient DNA analysis, organic residue analysis, palynology, lithology, and soil geochemistry) to answer the following research questions: What was the exact chronology of these barrow traditions? How long did a given population build cemeteries and what were the time intervals between successive waves of kurganization? Did later barrow traditions develop locally from earlier ones or were they brought in by migrating populations? What were the genetic links between specific populations? How did a particular population impact the environment? Did they eat the same foods and use similar economic systems or did they differ? How different were these communities at the social and ritual levels? And finally, what was the nature of interactions between these populations and neighboring communities?

This project represents the first comprehensive study of Bronze Age barrow communities undertaken by a joint Polish-Romanian research team that will compare hypotheses developed in these two research circles. This will provide crucial insight into kurganization in Romania at the micro-scale, while contributing to broader European archaeological debates at the macro one. The essential baseline data developed in this project can also be exploited in other disciplines like ecology, forestry, geology, survey, forensic sciences and climate change studies, offering significant legacy benefits for future research.